Sampling and Analysis Plan

for the

AAA Accredited Pest Control Removal Action Sites

Post-Removal Action Clearance Sampling

Rutland, Vermont

Conducted under:

Emergency Planning and Response Branch
Generic Program Quality Assurance Project Plan
March 22, 2004

Prepared by:

Weston Solutions, Inc.
Region I
Superfund Technical Assessment and Response Team III (START)
February 2014

Approved by:

Bazenas, Ted

Digitally signed by Bazenas, Ted
DN: dc=gov, dc=epa, dc=ad, dc=aa, ou=EPA, ou=REGIONS, ou=IDs, ou=User, ou=Region-R01, ou=AdmDiv-R01-OSRR, cn=Bazenas, Ted
Date: 2014.03.10 11:44:48 -04'00'

Date

U.S. EPA New England On-Scene Coordinator

Projected Dates of Sampling: 6 February 2014 through TBD
CERCLA Site/Spill Identifier No.:01LC
Contractor Organization: Weston Solutions, Inc.
Contract Name: START
Contract Number: EP-W-05-042
Technical Direction Document No.: 01-13-09-0007
Document Control No.: R-7584

Preface and Instructions

This Sampling and Analysis template will be used to develop site-specific Sampling and Analysis Plans (SAPs) in conjunction with the *U.S. Environmental Protection Agency (EPA) New England Emergency Planning and Response Branch Generic Program Quality Assurance Project Plan (Generic EPRB QAPP).* The SAP will describe technical and quality control activities specific to the data collection operation, and will refer back to the *Generic EPRB QAPP* for routine technical and quality assurance procedures that will be employed.

The user should incorporate previously developed planning documents such as work plans and Statements of Work (SOWs) directly into the SAP to facilitate its development and to preclude redundancy of effort.

A copy of the SAP will be filed in the site file. Also, a copy of the SAP may be forwarded to the Regional Sample Coordinator at the Office of Environmental Measurement and Evaluation (OEME) instead of the Data Quality Objectives (DQO) Summary Form.

Acronyms

ATSDR	Agency for Toxic Substances and Disease Registry
CLP	Contract Laboratory Program
COC	Contaminant of Concern
DAS	Delivery of Analytical Services
DQO	Data Quality Objectives
ERRS	Emergency Rapid Response Services
ERT	Environmental Response Team
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MSDS	Material Safety Data Sheet
NCP	National Contingency Plan
OEME	U.S. EPA New England Office of Environmental Measurement and Evaluation
OSC	On-Scene Coordinator
PCB	Polychlorinated Biphenyl
PE	Performance Evaluation
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QL	Quantitation Limit
RAL	Removal Action Level
RSCC	Regional Sample Control Coordinator
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure
SOW	Statement of Work
START	Superfund Technical Assessment and Response Team
SVOC	Semivolatile Organic Compound
USCG	United States Coast Guard
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound
XRF	X-Ray Fluorescence

SAMPLING AND ANALYSIS PLAN
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2.0 Introduction

This SAP identifies the data collection activities and associated quality assurance/quality control (QA/QC) measures specific to the AAA Accredited Pest Control Site (the site), located in Rutland, Vermont (VT) and surrounding communities. All data will be generated in accordance with the quality requirements described in the *EPRB Generic QAPP*, dated March 22, 2004. The purpose of this SAP is to describe site-specific tasks that will be performed in support of the stated objectives. The SAP will reference back to the QAPP for "generic" tasks common to all data collection activities including routine procedures for sampling and analysis, sample documentation, equipment decontamination, sample handling, data management, assessment and data review. Additional site-specific procedures and/or modifications to procedures described in the *EPRB Generic QAPP* are described in the following SAP elements.

This SAP is prepared, reviewed and approved in accordance with the procedures detailed in the *EPRB Generic QAPP*, Section 3. Any deviations or modifications to the approved SAP will be documented using **SAP Table 1: (SAP Revision Form)**.

3.0 and 4.0 Project Management and SAP Distribution

Management of the site will be as documented in the *EPRB Generic QAPP*. Refer to the *Generic EPRB QAPP* for organizational chart, communication pathways, personnel responsibilities and qualifications, and special personnel training requirements.

4.1 Project Team Members List

The following personnel will be involved in planning and/or technical activities performed for this data collection activity. Each will receive a copy of the approved SAP. (A copy of the SAP will also be retained in the site file.)

Tom Condon	EPA On-Scene Coordinator (OSC)
Alex Sherrin	EPA OSC
Rich Haworth	EPA OSC
Ted Bazenas	EPA OSC
Brent England	EPA OSC
Eric Ackerman	Weston Solutions, Inc. (WESTON®) START Site Leader
Paul Callahan	START Readiness Coordinator
John Burton	START Lead Chemist
William Mahany	START Lead

5.0 Planning and Problem Definition

5.1 Problem Definition

The VT Agency for Agriculture, Markets, and Food (AAMF) began investigating AAA Accredited Pest Control (AAAAPC) in May 2013 following a complaint that a pesticide application by AAAAPC to address a bedbug infestation had sickened a family in the treated house. Samples collected by VT AAMF from the treated house in Rutland, VT indicated the presence of deltamethrin, lambda cyhalothrin, permethrin and chlorpyrifos. Chlorpyrifos has not been permitted for indoor use since 2001. Further investigations by the VT AAMF and VT Department of Health (DOH), and follow up characterization sampling by EPA, indicated the potential widespread use of chlorpyrifos in indoor applications at homes in Rutland, VT and in the surrounding area.

EPA will conduct Removal Actions at residences where characterization sampling indicated the presence of chlorpyrifos at levels exceeding EPA Removal Program Action Level (AL) of 0.006 micrograms per square centimeter (ug/cm^2). EPA and START will conduct post-Removal Action clearance sampling of residences in order to document that EPA decontamination activities have reduced the risk of exposure. VT AAFM will recommended and advise on owner-conducted cleanups at residences exceeding the VT AAMF AL of 0.0004 ug/cm^2. VT AAMF will conduct post-cleaning sampling to verify that a reduction in risk has been achieved.

5.2 Site History and Background

The AAA Accredited Pest Control Site (the site) includes residences in Rutland, Vermont (VT), and in surrounding communities. The VT AAMF and Department of Health (DOH) requested EPA assistance in conducting sampling of residences where AAA Accredited Pest Control (AAAAPC), a local exterminator, applied chlorpyrifos in indoor settings.

The VT AAMF began investigating AAAAPC in May 2013 following a complaint that a pesticide application by AAAAPC to address a bedbug infestation had sickened a family in the treated house. VT AAMF field agents initiated the investigation, which included interviewing the complainant, inspecting the property, collecting photographic evidence, sampling of the complainant's home, interviewing of the pesticide applicator from AAAAPC, inspecting AAAAPC's records and invoices, and sampling of their spray formulations and application equipment. Observations and analytical results indicated the presence of chlorpyrifos, which has been restricted for all indoor uses since 2001. The investigation continued with a review of invoices from AAAAPC in order to prioritize treated sites requiring sampling. Based on this review, sampling was initiated at additional properties recently treated for bedbugs or other insects, which were deemed most at risk of chlorpyrifos treatment.

EPA and START began on-site assistance to VT state agencies on 12 September 2013. Assistance included sample documentation for wipe samples collected by VT AAMF personnel, collection of wipe samples to confirm and characterize previous VT AAMF sampling results, data management, outreach efforts, and laboratory analysis. Removal Actions by EPA Emergency Rapid Response Services (ERRS) contractors were deemed appropriate at those properties with characterization sample analytical results over the EPA AL of 0.006 ug/cm^2. EPA and START will conduct clearance

sampling following decontamination and restoration activities at properties where Removal Actions are conducted. VT AAMF recommended owner-conducted cleanups at residences exceeding the VT AAMF AL of 0.0004 ug/cm^2, and will conduct post-cleaning clearance sampling.

5.3 Contaminants of Concern

Chlorpyrifos – see SAP Table 2: Contaminants of Concern.

5.4 Other Target Analytes

None.

Quality control (QC) acceptance limits and quantitation limits for some analytical methods are listed in Tables 1-7 of the *Generic EPRB QAPP*. QC and method quantitation limits for other methods are addressed in Section 12.2.2 of the *Generic EPRB QAPP*.

6.0 Project Description and Schedule

EPA will conduct Removal Actions at residences where sampling results indicated chlorpyrifos at levels exceeding EPA Removal Program AL. EPA and START will conduct clearance sampling to document the effectiveness of Removal Action activities. VT AAFM will recommended and advise on owner-conducted cleanups at residences exceeding the VT AAMF AL. VT AAMF will conduct post-cleaning sampling to verify that a reduction in risk has been achieved. All samples will be analyzed at the EPA Region 1 Office of Environmental Measurement and Evaluation (OEME) New England Regional Laboratory (NERL).

6.1 Schedule and Time Line

EPA Removal Actions and START clearance sampling support will begin on 6 February 2014 and continue for an estimated 10 weeks. Estimated laboratory turn-around times are 3 to 4 days.

7.0 Project Quality Objectives

7.1 Project Objectives

Sufficient data will be obtained from a representative number of samples to support defensible decisions by VT agencies and EPA and to determine whether further actions at the site by the VT AAFM/DOH or EPA EPRB are necessary.

The following project objectives apply to the site investigation

- To determine whether a removal action is warranted and if so whether the response should be classified as an emergency, time-critical, or non-time critical removal action.

- To rapidly assess and evaluate the urgency, magnitude, extent and impact of a release, or threatened release, of hazardous substances, pollutants or contaminants, and their impact on human health and/or the environment.

- To assess air quality to determine the level of personal protective equipment that must be used by site workers and to identify safety zones at the site.
- To assess air quality to determine if residents or site personnel need to be evacuated.
- To supply ATSDR or others with information about the nature and magnitude of any health threat and to support subsequent public health advisories.
- To determine a remedy to eliminate, reduce, or control risks to human health and the environment and to support an "Action" decision memorandum documenting the identified removal approach.
- To categorize waste material to support timely transportation and disposal decisions.
- To provide Hazardous Ranking System data and information.
- To identify potentially responsible parties.
- To support a "Closure" decision memorandum, when removal site evaluation is terminated.

7.2 Measurement and Performance Criteria

Generic measurement and performance criteria described in Table 7-2 of the *EPRB Generic QAPP* will be used to ensure that data are sufficiently sensitive, precise, accurate, and representative to support site decisions.

7.3 Decision Statements

Refer to Table 7-1 of the *EPRB Generic QAPP*.

8.0 Sampling Design

EPA and START will mobilize to the residences at which Removal Actions, including decontamination and restoration activities, have been conducted. Clearance samples will be collected by EPA and START from select locations at these residences to document post-Removal Action/Restoration site conditions. These samples will be analyzed at NERL. Clearance sample locations will be based on previous characterization sample locations where analytical results exceeded the EPA AL of 0.006 ug/cm^2. Additional samples may be collected at the OSC's discretion from locations with lower but still elevated chlorpyrifos levels that are deemed to be high traffic areas or otherwise have a higher risk for exposure. Clearance sample locations will generally be limited to one sample per room, but will be adjusted as needed based on the above criteria.

VT AAFM will collect clearance samples from those residences where owner-conducted cleaning has been conducted. These samples will be analyzed at NERL. Clearance samples will be collected by VT AAFM from select locations at these residences to document post-cleaning site conditions. Clearance sample locations will be based on previous VT AAFM initial sample locations where analytical results exceeded the VT AAFM AL of 0.0004 ug/cm^2.

All samples will be tracked with chain-of-custody documentation until they are delivered to the EPA OEME NERL in North Chelmsford, Massachusetts.

See **SAP Table 3: Sampling Locations and Sampling and Analysis Summary.**

9.0 Sampling Procedures

9.1 Sampling Standard Operating Procedures

The following Standard Operating Procedures (SOPs) will be used during the site evaluation:

1. EPRB Generic QAPP.
2. WSI/S3-09 – Weston/START SOP for Chip, Wipe, and Sweep Sampling as modified below:

Sample media will consist of a pre-cleaned 3-inch by 3-inch cotton gauze pad in a 2-ounce (oz.) glass jar. Gauze pad pre-cleaning by EPA OEME will include the use of a mixture of methylene chloride and acetone in order to remove any possible interfering pesticide compounds. The gauze pad wipe samples will be analyzed using solvent extraction and analysis by Ultra Performance Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (UPLC/MS/MS).

The area to be sampled should be 100 cm^2 of an impermeable surface. The gauze pad will be wetted with deionized water (DI) water while being held in a gloved hand, or the DI can be applied to the gauze pad while in the jar. Approximately 3 ml of deionized water will be used for each gauze pad. For samples collected prior to 24 January 2014, methanol was used as the wetting agent instead of DI water.

The 10-cm by 10-cm area to be sampled will be demarcated using tape, templates, or other means, then the DI-soaked gauze pad will be swabbed across the area using an up and down motion. Sampling of the demarcated area will be swabbed in alternating directions at least once more, turning over the gauze pad.

9.2 Confirmatory Sampling

Typically, confirmatory samples will be collected when field screening analyses are performed on site. However, it is anticipated that there will be no field screening.

9.3 Decontamination Procedures

For the most part, decontamination procedures are described in the individual sampling SOPs listed above in Section in 9.1. General decontamination procedures are described in Section 9.6 of the *EPRB Generic QAPP*.

10.0 Sample Handling, Tracking, and Custody Procedures

All samples will be identified, handled, shipped, tracked, and maintained under chain of custody in accordance with *EPRB Generic QAPP* Section 10.

11.0 Field Analytical Methods and Procedures

11.1 Field Analytical Methods and Standard Operating Procedures

The following procedures and methods will be used: None

11.2 Field Testing Laboratory

None

11.3 Screening/Confirmatory Analyses

None

12.0 Fixed Laboratory Analytical Methods and Procedures

12.1 Fixed Laboratory Methods and Standard Operating Procedures

This citation describes the Standard Operating Procedures that the fixed laboratory - ***EPA New England Regional Laboratory (NERL)*** - is implementing.

1. EIASOP-LCMS$CPF.0, *Standard Operating Procedure for the Analysis of Chlorpyrifos and Chlorpyrifos-Oxon in Wipes by UPLC/MS/MS*

12.2 Fixed Laboratory

EPA New England Regional Laboratory (NERL), 11 Technology Drive, North Chelmsford MA 01863

13.0 Quality Control Activities

13.1 Field Quality Control

Field QC samples will be collected and analyzed for this project at the frequency described in *EPRB Generic QAPP*, Table 13-1. The number of QC samples collected for each analytical parameter and concentration level are listed in **SAP Table 4**: **Field Quality Control Summary.**

13.2 Analytical Quality Control

QC for analytical procedures will be performed at the frequency described in *EPRB Generic QAPP*, Table 13-2. In addition, method-specific QC requirements will be used to ensure data quality.

13.3 Performance Evaluation Samples

None.

14.0 Secondary Data Requirements

EPRB only uses data which have been directly generated during the site activity to support site decisions. EPRB does not use secondary data to make regulatory site decisions, such as whether a site meets National Contingency Plan (NCP) criteria for a removal response. However, historical site information is routinely used during preliminary assessments and site investigations to help define the scope of removal activities. When used, EPRB will ensure that these data are of known and documented quality.

15.0 Documentation, Records, and Data Management

Documentation, record keeping, and data management activities will be conducted in accordance with the *EPRB Generic QAPP*, Section 15.

16.0 Quality Assurance Assessment and Corrective Actions

One field audit may be conducted during the early phase of a long-term response activity. Field sampling and field analytical procedures will be assessed for conformance with procedures described in the *EPRB Generic QAPP* and with this site-specific SAP. Findings will be documented in a report to management. Corrective actions in response to audit findings will be initiated, implemented and checked according to the *EPRB Generic QAPP*, Section 16.

Type of Audit:_____
Date(s) of Audit:_____
Performed by What Organization:_____ (typically OEME QA Unit)

Contact the Quality Assurance (QA) Unit to schedule QA Assessments through the OEME Request For Assistance website at: http://r1-gis-web.r1.epa.gov:9876/cfdocs/r1apps/rfa/main/intro.cfm.

17.0 Reports to Management

Reports to management will be written and distributed in accordance with the *EPRB Generic QAPP*, Section 17.

18.0, 19.0 and 20.0 Steps 1, 2 and 3: Data Review Requirements and Procedures

Step 1. Data collection activities, including sample collection and data generation, will be verified in accordance with the *EPRB Generic QAPP*, Section 18**.**

Step 2. Data will be validated in accordance with the *EPRB Generic QAPP*, Section 19.

Step 3. Data will be reviewed for usability in accordance with the *EPRB Generic QAPP*, Section 20.

SAP Table 1: SAP Revision Form

Site: AAA Accredited Pest Control

OSC: Tom Condon, Rich Haworth, Alex Sherrin, Dan Burgo, Ted Bazenas, Brent England

Date	Rev. #	Proposed Change to SAP/QAPP	Reason for Change of Scope/Procedures	SAP Section Superseded	Requested By	Approved By
1/24/14	1	Use of DI water instead of MeOH for Clearance and Resident Post-Clean sampling.	Original solvent was penetrating/dissolving the newly applied paint/barrier.	9.1	Richard Haworth	Richard Haworth
3/6/14	2	Updated Clearance and Post-Cleaning sampling strategies.	Procedure needed further articulation.	9.1	Ted Bazenas	Ted Bazenas

SAP Table 2: Contaminants of Concern (Reference Limit and Evaluation Table)

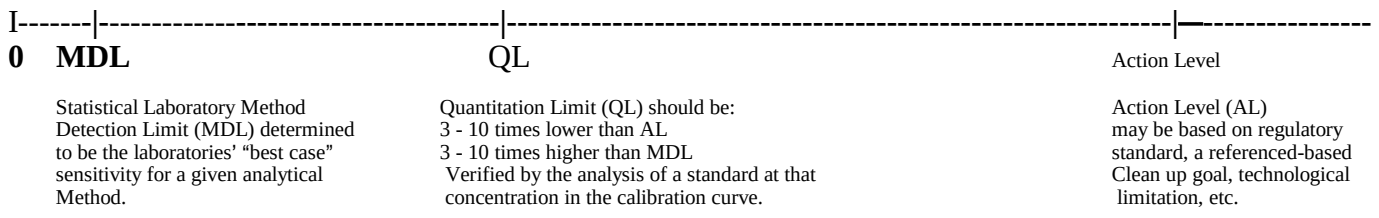
1) Complete separate table for each matrix. 2) List all Contaminants of Concern (COCs) that will be analyzed for the project.
3) Identify any Project Action Limits/Removal Action Limits (RALs). 4) List the Project Quantitation Limits/Reporting Limits required to meet project objectives.
5) List the MDLs and QLs of the published method and the MDLs and QLs achievable by the laboratory.
6) Check to make sure that the achievable laboratory QLs are less than or equal to the Project Quantitation Limits and that Project Quantitation Limits are at least two to five times less than the Project Action Levels. (Refer to EPRB Generic QAPP Section 6 for guidance.)

Matrix: Wipe
Field Analytical or Fixed Laboratory Method/SOP: EIASOP-LCMS$CPF.0 for NERL

Contaminant of Concern/ Laboratory	**Project Action Level (Units) (wet or dry weight) or Removal Action Limits (RALs)**	**Project Quantitation Limit (PQLs) (Units) (wet or dry weight)** *PQLs should be 3-10 times less than the RALs*	**Analytical Method**		**Achievable Laboratory Limits for method EIASOP-LCMS$CPF.0, *Standard Operating Procedure for the Analysis of Chlorpyrifos and Chlorpyrifos-Oxon in Wipes by UPLC/MS/MS***	
			Published Method MDLs[1]	Published Method QLs[1]	Laboratory MDLs[2]	Laboratory QLs[2] *Lab QLs should be less than or equal to the PQLs*
Chlorpyrifos/ NERL (100 cm^2 sample area)	0.0004 ug/cm^2	0.0004 ug/cm^2	N/A*	N/A*	0.0001773 ug/cm^2	0.0004 ug/cm^2

[1]Analytical method MDLs and QLs documented in validated methods. QLs are usually 3-10 times higher than the MDLs.
[2]Achievable MDLs and QLs are limits that an individual laboratory can achieve when performing a specific analytical method.
* EPA SW-846 Method 8141B, Organophosphorous Compounds by Gas Chromatography, is not being used due to laboratory capabilities and constraints.

Figure 6-1: Relationship of Method Detection Limits, Quantitation Limits and Action Levels



SAP Table 3: Sampling Locations and Sampling and Analysis Summary

Site: AAA Accredited Pest Control

OSC: Tom Condon, Rich Haworth, Alex Sherrin, Ted Bazenas, Brent England

Sampling Location*	Location ID Number	Matrix	Depth (Units)	Analytical Parameter	Number of Samples (Identify field duplicates and replicates)	Sampling SOP (SAP Section 9.1)	Sample Volume	Containers (Number, size and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/ analysis)
TBD	TBD	Wipe	N/A	Chlorpyrifos	TBD	Modified WSI/S3-09	1 Gauze Pad	One 2-oz jar	Ice	14 Days to extract, 40 days to analyze

SAP Table 4: Field Quality Control Summary

Site: AAA Accredited Pest Control
OSC: Tom Condon, Rich Haworth, Alex Sherrin, Ted Bazenas, Brent England

Matrix	Analytical Parameter	Analytical Method/ SOP Reference	No. of Sampling Locations	No. of Field Duplicate Pairs	Organic		Inorganic		No. of VOA Trip Blanks	No. of Equip. Blanks	No. of Confirmatory Samples	No. of PE Samples	Total No. of Samples to Lab
					No. of MS	No. of MSD	No. of Duplicates	No. of MS					
Wipe	Chlorpyrifos	EIASOP-LCMS$CPF.0	TBD	0	0	0	0	0	0	1 per SDG	0	0	TBD

Note:
If samples will be collected at different depths at the same location, count each discrete sampling depth as a separate sampling location/station.

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Appendix A

Appendix includes, but is not limited to:
Site Location Maps
Diagrams
Sample Location Maps
Schematics of Treatment Systems

Appendix B

EPA New England DQO Summary Form

(This form should be completed and submitted to the RSCC at OEME. Alternatively, a copy of the SAP may be forwarded to the RSCC instead of the DQO Summary Form.)

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form, Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1. EPA Program: CERCLA
Projected Date(s) of Sampling: various TBD
EPA Site Managers: Tom Condon, Rich Haworth, Alex Sherrin, Ted Bazenas, Brent England
EPA Case Team Members: Paul Callahan, Eric Ackerman, Bill Mahany, John Burton, Rob Sharp

Site Name: AAA Accredited Pest Control Site
Site Location: Rutland, VT and surrounding communities
Assigned Site Latitude/Longitude: NA - varies
CERCLA Site/Spill Identifier No. 01LC (Include Operable Unit)
Phase: ERA SA/SI pre-RI RI (phase I, etc.) FS RD *RA* post-RA (circle one) Other:

2. QAPjP Title and Revision Date: Sampling and Analysis Plan for the AAA Accredited Pest Control Removal Action Sites, Post-Removal Action Clearance Sampling, Rutland, VT 3 October 2013.
Approved by:_____Date of Approval:_____
Title of Approving Official:_____Organization*:_____
*If other than EPA, record date approval authority was delegated:_____

EPA Oversight Project (circle one) Y N Type of EPA Oversight (circle one) PRP or FF Other:_____
Confirmatory Analysis for Field Screening Y N If EPA Oversight or Confirmatory: % splits____NA_____
Are comparability criteria documented? Y N

3. a.	Matrix Code[1]	WI							
b.	Parameter Code[2]	Chlorpyrifos							
c.	Preservation Code[3]	Ice (2-6°)							
d.	Analytical Services Mechanism	OEME							
e.	No. of Sample Locations	TBD							
	Field QC:								
f.	Field Duplicate Pairs	NA							
g.	Equipment Blanks	1 Field Blank per house							
h.	VOA Trip Blanks	NA							
I.	Cooler Temperature Blanks	NA							
j.	Bottle Blanks	NA							
k.	Other:_____	NA							
l.	PES sent to Laboratory	NA							
	Laboratory QC:	1 per day, per batch to a maximum of 20 samples.							
m.	Reagent Blank	NA							
n.	Duplicate	NA							
o.	Matrix Spike	NA							
p.	Matrix Spike Duplicate	NA							
q.	Other: LCS_____	1 per day, per batch to a maximum of 20 samples.							

4. Site Information
Site Dimensions: Varies - Residential Sampling
List all potentially contaminated matrices: Interior Surfaces of Residences
Range of Depth to Groundwater: NA
Soil Types: Surface Subsurface Other: NA
Sediment Types: Stream Pond Estuary Wetland Other: NA Expected Soil/Sediment Moisture Content: High Low

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1]: WI

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:_____

Draft DQO Summary Form 11/96

6. Summarize DQOs: To collect representative samples from the interior surfaces of residences to document post-Removal Action/cleaning site conditions and to document that a reduction in the chlorpyrifos risk of exposure has been achieved.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
Chlorpyrifos	EPA: 0.006 ug/cm2 VT: 0.0004 ug/cm2	0.0004 ug/cm2-

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:
Split Spoon Dredge Trowel Other: Wipe Samples

Sampling Procedures (SOP name, No., Rev. #, and date): WSI/S3-09 – Weston/START SOP for Chip, Wipe, and Sweep Sampling as modified per this SAP
List Background Sample Locations: N/A
Circle: Grab or Composite
"Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity
Other: N/A

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
Standard Operating Procedure for the Analysis of Chlopyrifos and Chlorpyrifos-Oxon Wipes	LC/MS/MS- EIA SOP-LCMS$$$CPF.0		Chlorpyrifos

10. Validation Criteria (circle one) 1. EPA New England Environmental Data Review Program Guidance
2. Other: EPA OEME internal data review
Validation Tier (circle one) I II III Partial Tier III: N/A
Company/Organization Performing Data Validation: EPA/OEME
Prime or Subcontractor (circle one)

Matrix Codes[1] - Refer to Attachment B, Part I
Parameter Codes[2] - Refer to Attachment B, Part II

Preservation Codes[3]

1. HCl to pH # 2
2. HNO_3
3. $NaHSO_4$
4. H_2SO_4
5. Cool @ 4EC (∀ 2E)
6. NaOH
7. $K_2Cr_2O_7$
8. Freeze
9. Room Temperature (avoid excessive heat)
10. Other (Specify)
N. Not preserved

* - To supplement Matrix Codes and/or Parameter Codes contact the QA Unit

Appendix C

Superfund Performance Evaluation Sample Index

For EPA PE Samples call:

Leo Corben

617.918.8630

or

Steve Stodola

617.918.8634

2011 SUPERFUND PERFORMANCE EVALUATION SAMPLE INDEX

2011 SUPERFUND PERFORMANCE EVALUATION SAMPLE INDEX (continued)

2011 SUPERFUND PERFORMANCE EVALUATION SAMPLE INDEX (concluded)